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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/678,004
Filing Date: October 02, 2003
Appellant(s): RIBARICH, THOMAS J.

Kourosh Salehi

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on May 29, 2007 appealing from the Office action mailed on November 30, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Muessli (US Patent No. 6,548,948 B1) April 15, 2003

Mies et al. (WO Patent No. 96/13048) May 2, 1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 2, 4, 6-16 and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muessli (US Patent No.: 6,548,948 B1) in view of (WO 96/13048), hereinafter as Mies.

Regarding claim 1, Muessli ('948 B1) discloses a compact florescent lamp package (Figures 1-3) comprising:

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- a base 10 electrically connectable to the electrical socket capable for receiving an ordinary incandescent lamp (Figure 3, column 4, line 9);
- the base 10 including an open end 14, a closed end 13 and a wall 11 enclosing space (Figure 3, column 4, lines 35-37);
- a multi-chip module including a ballast circuit 40 on a circuit board 41 (Figure 3, column 4, lines 38-41); and
- the multi-chip module being contained entirely within the space defined in the base 10 (Figure 3, column 4, lines 38 and 39), and the multi-chip module being electrically connected to the base 10 with the element 48 (Figure 3); and
- the circuit board 41 including opposing surfaces, one surface, bearing elements 15, facing the opening and the other surface, bearing elements 48, facing the closed end 13 (Figure 3);
- a fluorescent lamp 31 extending away from the base 10 (Figures 1-3), and operatively connected to the ballast circuit 40 (Figures 1 and 3, column 3, lines 66 and 67, and column 4, lines 1-4);
- the multi chip module including elements 43 mounted on a single circuit board 41 integral with a sub-circuit board 42 (Figure 3, column 5, lines 9-16).

However, Muessli ('948 B1) does not specifically teach:

- a thermally conductive body disposed within the base; and the thermally conductive base thermally connecting the base to said ballast circuit.

On the other hand, Mies disclose a compact fluorescent lamp package (Figure 1) comprising a base 3 housing ballast module B (Figure 1, page 3, lines 27 and 28). Mies further teaches the cavity space of the base 3 including thermally conductive body D for mechanical stability and improved thermal management (Figure 1, Page 2, lines 16-32). Additionally, Mies teaches the thermally conductive body thermally connecting the wall 6 of the screw base 3 to the ballast circuit directly (Figure 1).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify the compact Fluorescent lamp package of Muesli ('948 B1) by filling thermal epoxy compound as taught by Mies for benefit and advantage of efficiently dissipating heat to the outer casing, and providing mechanical stability to the circuit board, and improving efficiency and operational life of the device.

Regarding claims 2, 4, 6, 9, 10, 12-16, Muesli in view of Mies discloses the compact fluorescent lamp package (Figures 1-3 and 8) comprising:

- a diffuser cover 1 enveloping the fluorescent lamp 30, and providing appearance of an ordinary incandescent lamp, and directly connected to the base 10 (Muesli, Figure 8, column 5, lines 54-56); the base 10 being an Edison screw base (Figures 1-3 and 8);
- the multi-chip module 40 mounted on a single circuit board 41 (Muesli, Column 4, lines 38-41);
- the ballast circuit 40 including elements mounted on both sides of the circuit board 41 (Muesli, Column 2, lines 63-65, and Column 4, lines 38-41);

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- the thermally conductive body being a thermal epoxy (Mies, Figure 1, Page 2, lines 16-32);
- the circuit board 41 having its parameters conforming the base configuration (Muessli, Figure 3);
- the circuit board 41 being generally rectangular circuit board (Muessli, Figure 3);
- the wall of the base 11 serving as a connector connecting the lamp 31 to first pole of a power line and the closed end 12 of the base insulated from the wall, and further connecting to the second pole of the power line (Muessli, Figure 3, column 3, lines 60-65);
- the multi-chip module 40 electrically connected to the wall 11 of the screw base via a first wire 15 (Muessli, Figure 3, column 4, lines 24-28), and the multi-chip module 40 further electrically connected to a connector 13 via a second wire 49 (Muessli, Figure 3, column 3, lines 59-64);
- the fluorescent lamp 30 connected to multi-chip module 40 via respective filament terminals 50 (Muessli, Figure 4, column 3, lines 8-12);
- the multi-chip module 40 including a circuit board 41 with a heat sink 10 disposed on its surface, and the heat sink 10 – lamp base - being thermally connected through the circuit board 40 to the heat generating components including elements 43, 45 and 46 (Muessli, Figure 3, column 2, lines 9-14);

Regarding claims 7 and 8, each dependent on Claim 6, Muessli ('948 B1) in view of Mies discloses the compact florescent lamp package comprising a circuit board carrying electronic components on its both sides. However, neither combined nor individual teaching of Muessli ('948 B1) and Mies teaches specifically a circuit board carrying design dependent electronic components on one side, and the design-independent electronic components on another side opposing side.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to position design dependent electronic components on one side of the circuit board, and the design-independent electronic components on another side opposing side, since it has been held that rearranging parts of a prior art structure involves only routing skill in the art. Further rearrangement of electronic components would facilitate assembly of the device in an orderly manner.

Regarding Claim 11, dependent on Claim 1, Muessli ('948 B1) in view of Mies discloses the compact florescent lamp package comprising a generally rectangular circuit board. However, neither combined nor individual teaching of Muessli and Mies teaches specifically a circular circuit board.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a generally circular circuit board instead of a generally rectangular one, since it has been held that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art.

Regarding claims 38-42, Muessli ('948 B1) in view of Mies meets the limitations in similar manner as that detailed above for the rejections of claims 1, 2, 4, 6 and 9.

(10) Response to Argument

Argument: Regarding claim 1, Muessli and Miles both disclose a device in which the circuit board is vertically oriented such that the component receiving surfaces face the wall of the screw base.

Response: Neither claim 1 nor claim 38 include a limitation requiring a specific orientation of the circuit board. Each of claims 1 and 38 includes "a circuit board including opposing surfaces, one surface facing said opening and the second surface facing said closed end".

As discussed above, Muessli ('948 B1) in view of Miles discloses a compact florescent lamp package comprising the circuit board 41 including opposing surfaces; one surface with elements 15 is facing the opening and the other surface with the elements 48 is facing the closed end 13 (Muessli, Figure 3).

Thus, Muessli ('948 B1) in view of Miles meet the limitation argued by the appellant.

Argument: Regarding claims 1 and 38, Muessli ('948 B1) and Miles do not teach the limitation "a single circuit board", instead, the above-indicated prior arts teach a first circuit board placed upside-down onto a second

circuit board. Further, the above-indicated prior arts do not teach the first and second circuit boards being integral.

Response: Muessli ('948 B1) in view of Miles clearly teaches:

- A multi-chip module including a ballast circuit 40 on a circuit board 41 (Muessli, Figure 3, column 4, lines 38-41);
- The multi chip module including elements 43 mounted on a single circuit board 41, which is integral – broadly interpreted as held together with the coils soldered together - with a sub-circuit board 42 (Muessli, Figure 3, column 5, lines 9-16).

The second circuit board 42 being integral to the main circuit board after the multi chip ballast is mounted on the circuit board 41 (Muessli, Figure 3, column 5, lines 9-12).

Note: The phrase “integral” has been broadly interpreted an assembly held together with attachment means such as mechanical fasteners, solder joints, weld joints, chemical bonding or adhesive joints

Therefore, Muessli ('948 B1) in view of and Miles (WIPO Patent No.: WO 96/13048) meets the respective limitation of each of the amended claims 1 and 38.

Argument: Regarding claims 1 and 38, neither Miles, nor Muessli teaches or suggests the use of a thermally conductive body to transmit heat to the screw base for heat dissipation, and to support the ballast inside the screw base.

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Response: As discussed above, Muesli ('948 B1) teaches a compact florescent lamp package comprising a ballast circuit being contained entirely within the space defined in the base 10, and structurally supported in the space of the base (Figure 3, column 4, lines 38 and 39). However Miles does not teach a thermally conductive body disposed within the base; and the thermally conductive base thermally connecting the base to said ballast circuit.

On the other hand, Mies disclose a compact fluorescent lamp package (Mies, Figure 1) comprising a base 3 housing a ballast module B (Mies, Figure 1, page 3, lines 27 and 28). Mies further teaches the cavity space of the base 3 including thermally conductive body D providing heat dissipation and stability (Mies, Figure 1, Page 2, lines 16-32). Additionally, Miles teaches the thermally conductive body thermally communicating with the wall 6 of the screw base 3 to the ballast circuit directly (Figure 1).

As discussed above, Muesli ('948 B1) discloses a compact florescent lamp package having electronic components supported in structurally stable manner. The prior art Muesli ('948 B1) has been modified to equip the compact florescent lamp package with the thermally conductive body as taught by Miles. As discussed above, the use of thermally conductive body is the only teaching of Muesli ('948) applied to modify the compact fluorescent package of Miles.

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Argument: Regarding claim 6, Muessli does not show or describe components of a ballast circuit on both sides of a circuit board. Thus, the limitations of claim 6 are not disclosed in the cited prior arts.

Response: Muessli ('948 B1) clearly teaches the circuit board supporting all electric and electronic components on both sides (Figure 3, column 4, lines 40 and 41).

Therefore, Muessli ('948 B1) in view of Miles (WIPO Patent No.: WO 96/13048) meets the limitations of claim 6.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

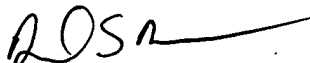
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Hargobind S. Sawhney/

Conferees:

SPE: Mr. Blum David S



SPE: Lee, Jong-Suk (James)



12/19/2007